SBIR/STTR Meeting
Advanced Training Technology

DCM Associates, LLC

December 7, 2004

SBIR Phase I

► Develop role and industry specific online eLearning courses for HazMat workers

- Truck course is the prototype

► Perform a control study to evaluate:

► Compare online to classroom training in:

- time-to-competence and cost
- user acceptance as gathered in test scores and feedback
- simplified dissemination of curricular revisions and updates
- improved accessibility

Anticipated SBIR Phase II

► Enlarge the control study

► Incorporate changes

► Develop other mode specific courses

► Workers, logistics, and safety professionals involved in design, development, and testing

DCMA's Experienced Team

Deb Marmarelli, MS CS, Dow Corning, RWD Technologies, Dow—IT, eLearning, Knowledge Management

Ann Martin, Dow Chemical—Global Learning Leader, eLearning

Developed online eLearning European Dangerous Goods courses for Dow, translated into 7 languages. Dow is DCMA's largest client.

Advisors:

Lee Martin -- Dow HazMat expert, former President of DGAC

Cor Nelemans – Dow EH&S Complaince, Roerdam

Noel Vandewosteijne – Dow Corning Logistics, Midland, MI

Centered in mid-Michigan

► State and local public/private investment

► Drawing expertise from:

- the community (LEPT's, Emergency Preparedness Office)

- the state (Homeland Security, State Police HazMat office)

- Central Michigan University (Cook, Lee, Walton)

- logistics workers (Lelanau Logistics, EATON)

► The Internet enables our team

Effectiveness Evaluation is Crucial

...NIOSH Poster Session-NIEHS Trainers' Exchange 2003

	TRADITIONAL	PARTICIPATORY
Who	Evaluation consultant or program administrator.	Team of worker trainers, trainers, evaluation consultant, program administrator and staff.
What they do	· Consultant designs, conducts, analyzes and writes report · Worker trainers and trainers may distribute and collect evaluation forms · Consultant recommends changes and future directions for programs	· Team decides evaluation focus, design, data collection instruments, analysis, etc . · Consultant may provide more hands-on work while those internal to program provide ideas and feedback. · Team reflects on findings and decides implications for future program directions.
When	At the end of the project.	Throughout the project.
How	Formal written report for program administrators and funders.	Variety of formats—formal written reports, group activities, newsletters—for worker trainers, program administrators, funders and staff
Use	To make judgments.	· Learn how program works to guide ongoing improvements. · Expand original learning.

Pilot

► 5-7 workers, safety professionals
► Take pre- and post-tests planned for course
► Review generic and custom course
► Industry standards
► Open-ended evaluations, interviews to gather feedback
► Course modified to reflect feedback

Control Study

► Scientifically evaluate the online compared to classroom experience

- test and control groups composed of a random, stratified sample of hazardous materials workers (35 each group)
- educational merit independently evaluated
- time-to-competence and test scores gathered

► Compare course to classroom training in the following:

- time-to-competence and cost
- user acceptance as gathered in test scores and feedback
- simplified dissemination of curricular revisions and updates
- improved accessibility

eLearning can provide

- ► Time to Practice

- ► Credibility

- ► Blended solution

- ► Practice questions
- ► Ability to repeat modules
- ► Real life scenarios

- ► Industry experts update
- ► "Ask the expert" eMails

- ► eLearning for skill components, not replacing hands-on

our eLearning could

► provide pre-class assessment and

► preparatory assignments (RFA-D.1),

► function as stand-alone familiarization courses or refreshers (RFA-E.5), or

► become part of a blended solution that also provides classroom hands-on training (RFA-D.2).

Training Curriculum Guidelines
Hazardous waste operations & emergency response. - 1910.120 App E:

Suggested
Core Criteria:

1. Training
2. Training Director.
3. Instructors.
4. Course materials.

5. Students.
6. Ratios.
7. Proficiency assessment.

8. Course certificate.

9. Record keeping
10. Program quality control.

eLearning eliminates the need for a facility except for hands-on activities scheduled as part of a blended training approach. We also recommend a "kiosk" in a small conference room(s) available 24x7. .

Training Director is a crucial role within each partner company to establish a quality program.

Online eLearning provides feedback anywhere, anytime, leveraging expertise, with immediate updates.

The Training Director for each company will take the courses as part of an annual review that initiates their approval of the courses prior to training reminders being sent. DCMA industry experts will keep content up-to-date.

We support student requirement guidelines as part of our registration process. We will require a userid/password for each.

eLearning eliminates the Instructor/student ratio concerns.

DCMA will include a proficiency assessment and record the results. The Training Director will approve it as part of the annual review.

Course completions will initiate emails/reports. **Unique 'certificate' numbers** will be used to enable creation of training certification cards.

We will have Course History record keeping/retention.

Open ended student questionnaire, "Ask the Expert", and annual review process with the Training Director will all capture needed changes and lead to improvements.